IMPROVED PIPE CONNECTOR

FIELD OF THE INVENTION

The present invention relates to a pipe connector that has a guarding member on one end of a pipe to house a sleeve cap which has a harness hole to generate a contracting force to compress the pipe to form a secured fastening between two pipes.

BACKGROUND OF THE INVENTION

At present the methods for connecting two pipes use screw threads on the end of both pipes. While the threaded ends look like they are fastened tightly, actually there are problems; notably:

1. Conventional connecting the ends of two pipes using internal and external threads. The distal threaded ends of the two pipes are not always aligned. They should be bent slightly for alignment after coupling. This tends to cause damage to the connecting ends and affects the service life of the pipes.

2. To couple the external and internal threaded ends of the pipes, the pipes should be turned to reach the fastening position. Once reached, the two pipes still have to be twisted to attain the most suitable connecting positions. Twisting one of the pipes forcibly could easily generate a gap between the two ends and result in undesirable fluid leakage therein.

SUMMARY OF THE INVENTION

In view of the aforesaid disadvantages, the present invention aims to provide an improved pipe connector that has a sloped harness hole in a sleeve cap to generate a contracting force to compress the pipes. The two pipes are retained at both ends of a fastening member which may be adjusted angularly according to onsite requirements to achieve a more secure fastening for the pipes.

The main feature of the invention is to form a sloped harness hole in a sleeve cap to couple with a fastening member that is coupled with a pad sleeve so that the harness hole can generate a contracting force to compress the pipes to be connected and achieve a secure fastening.

By means of the invention, the following advantages can be achieved:

1. The sloped harness hole of the sleeve cap is coupled from outside of the pipe to a fastening section. It forms an annular compression to gradually constrict the pipes and maintain a precise position.

2. The sloped harness hole of the sleeve cap can prevent the connecting ends of the two pipes from screw dead-locks or leakages thus can result in a smooth connection and flow path.

The foregoing, as well as additional objects, features and advantages of the invention will be more readily apparent from the following detailed description, which proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of the present invention.

FIG. 2 is a side view of the invention before assembly.

FIG. 3 is a side view of the invention with a fastening member and a sleeve cap coupled to a pipe.

FIG. 4 is a side view of the invention with a guarding member to couple with a fastening member.

FIG. 5 is a side view of the invention with a guarding member coupled with a fastening member.

FIG. 6 is a side view of another embodiment of the invention.

FIG. 7 is a side view of the invention after joining the two pipes according to FIG. 6.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please refer to FIGS. 1, 2 and 3, the invention includes a fastening member 1 and a bracing sleeve 2 to couple by tightening the guarding member 3 which houses a sleeve cap 4 inside to compress a pipe 5 to tightly to fasten and achieve a smooth connection.

The fastening member 1 has one end forming an external thread section 10 and other end extended to form a fastening section 11 to couple with a pad sleeve 12 from the outside. The fastening member 1 has a hole 13 through the center.

The bracing sleeve 2 has a bore 20 in the center to allow the pipe 5 to pass through and also couple with the fastening

section 11 from the outside. The other end forms a curved edge 21.

The guarding member 3 has a hole 30 in the center of one side to allow the pipe 5 to run through and the other side forms an internal threaded hole 31 to couple with the external thread section 10 of the fastening member 1.

The sleeve cap 4 has an outer dimension to be housed in the guarding member 3 at the bottom end of the internal threaded hole 31 and has a sloped harness hole 40 at its center.

For assembly (referring to FIG. 3), couple the pipe 5 on the fastening section 11 of the fastening member 1 that is surrounded by the pad sleeve 12; couple the bracing sleeve 2 on the pipe 5 from outside; screw the internal threaded hole 31 of the guarding member 3 with the external thread section 10 of the fastening member 1. When screwing, the harness hole 40 of the sleeve cap 4 gradually moves towards the curved edge 21 of the bracing sleeve 2 and compresses the pipe 5 (referring to FIGS. 4 and 5) so that the pipe 5 is fastened tightly. Thus the two pipes may be coupled smoothly without skewing or forming a gap.

Refer to FIG. 6 and FIG 7 for another embodiment of the invention. It is constructed substantially like the embodiment shown in FIG. 1. The main difference is that the fastening member 1a consists of a left side member 100a and a right side member 101a. The right side member 101a has a housing

zone 102a on one side. The left side member 100a has a flange 103a on one side with the same diameter as the housing zone that is coupled with a pad ring 104a to be housed in the housing zone 102a. The left side member 100a has another side coupled with a pad sleeve 105a. The other side of the left side member 100a may be coupled with a pipe 5. Then the guarding member 3 can screw onto the fastening member 1a. When screwing, the harness hole 40 of the sleeve cap 4 in the guarding member 3 gradually moves towards the curved edge 21 of the bracing sleeve 2 and compresses the pipe 5 to form a secured fastening (referring to FIG. 7).

In summary, the sleeve cap of the invention has a sloped harness hole to confine the connection of the pipes so that screw coupling of the two pipes may be accomplished smoothly without skewing or forming a gap in the join; therefor a secure fastening can be achieved. The present invention may also be adapted to connect and fasten any other type of pipe (such as connecting three-way pipes, two-way pipes, or elbow pipes, and the like).